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Pericardial infection caused by *Brevibacterium casei*

In response to the article describing two cases of catheter-related bacteraemia associated with *Brevibacterium casei* in the May 2004 issue of *Clinical Microbiology and Infection* [1], we wish to report an unusual case of *B. casei* infection that was encountered recently at our institution.

A 78-year-old man with a history of cancer was admitted with fatigue, shortness of breath, loss of appetite, and intermittent chest pain. The patient was afebrile, but hypotensive (blood pressure, 68/39 mmHg), tachycardiac (heart rate, 124/min), tachypenic (respiratory rate, 28/min) and hypoxic (oxygenation saturation, 88% on room air). On examination, there was an irregular heart rhythm, but without murmurs or gallop or peripheral signs of endocarditis. Initial laboratory values included a white blood cell count of 11 100/mm^3 (84% segmented neutrophils, 6% lymphocytes, 8% monocytes, 1% eosinophils and 1% basophils), haemoglobin 8.3 g/dL, and platelets 202 000/mm^3. Blood and urine cultures were negative. A trans-thoracic echocardiogram revealed a moderate-to-large pericardial effusion with right ventricle collapse. An emergent pericardiocentesis drained 570 mL of thick, bloody fluid. Pericardial fluid analysis revealed 140 000 red blood cells/mm^3, 208 white blood cells/mm^3 (73% neutrophils, 27% lymphocytes), protein 4.8 g/dL, glucose 160 mg/dL, amylase 13 U/L and lactic dehydrogenase 4219 U/dL. Cytopathological analysis of the pericardial fluid showed acute and chronic inflammatory cells with reactive mesothelial cells. Culture of the pericardial fluid was positive for *B. casei*, and treatment with intravenous vancomycin was started.

Antimicrobial sensitivity testing was performed in conventional Gram-positive MicroScan (Sacramento, CA, USA) panels via broth microdilution, and was interpreted according to the breakpoints recommended by Funke *et al.* [2]. The organism was sensitive to ceftriaxone (MIC ≤ 4 mg/L), ciprofloxacin (MIC ≤ 1 mg/L), erythromycin (MIC ≤ 0.5 mg/L), rifampicin (MIC ≤ 1 mg/L), tetracycline (MIC ≤ 4 mg/L) and vancomycin (MIC ≤ 2 mg/L), but was resistant to ampicillin (MIC 4 mg/L), amoxycillin–clavulanic acid (MIC > 4/2 mg/L), clindamycin (MIC > 2 mg/L) and penicillin (MIC 2 mg/L). The patient's condition improved initially, but a gastrointestinal bleed and atrial fibrillation, with rapid ventricular response, developed after a further 11 days, and the patient subsequently died.

The genus *Brevibacterium* was first described in the 1950s [3], but *Brevibacterium* spp. have been implicated only rarely as human pathogens [1,3–15]. *Brevibacterium* spp. are Gram-positive coryneform bacilli that are found frequently in dairy products. Some species (e.g., *B. casei* and *Brevibacterium epidermidis*) may be part of the normal human skin flora [3,16]. To date, *Brevibacterium* spp. have been identified in clinical specimens, but *B. casei* appears to be the most common [17]. Fourteen case reports of *Brevibacterium* spp. infections can be found in the literature [1,4–15]. Manifestations have included bacteraemia, with or without associated central venous catheter infection (n = 10), peritonitis (n = 2), endocarditis (n = 1) and sternal osteomyelitis (n = 1). Most clinical *Brevibacterium* isolates have been reported to be susceptible to β-lactams, ciprofloxacin and vancomycin. To our knowledge, the present case is the first report of pericardial infection caused by *Brevibacterium* spp. These organisms appear to be opportunistic pathogens, with most reported cases involving patients with an underlying malignancy or immunodeficiency disease. The possibility of *Brevibacterium* infection should be considered in the context of pericarditis among immunocompromised patients.

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